

**ABSTRACT**

A piston particularly adapted for heavy-duty diesel engine applications is fabricated from separate parts having circumferentially extending joining surfaces that are heated prior to bonding to an elevated temperature sufficient to enable bonding of the joining surfaces, and thereafter the joining surfaces brought into contact with one another and twisted to attain a permanent metallurgical weld at the interface of the joining surfaces. The piston has radially spaced walls which are both welded simultaneously. The weld joints may lie in the same or different planes. Once joined, and while still hot, the parts may be pulled apart slightly to reduce the wall thicknesses at the weld joint.